from the late Sir Walter Fletcher on "Biology and Statecraft." In Kenya, Sir Edward Grigg, our Governor at the time, was the first to support the suggestion in 1926 for a collaborative team research on a liberal scale into the nature and nurture of the native: in other words, into the condition we call racial backwardness. This proposal, the second element of the "new idea," is in fact a revival in East Africa of the plea made on behalf of the West by Mary Kingsley, for the aid of science to develop the African into a worthy citizen. In the interval of thirty-three years, Mary Kingsley's words have been forgotten but vindicated over and over again by the increased power of science to assist and by the course of things without that assistance. What man or woman who has given knowledge and thought to consideration of the interests of the African can doubt that those interests require the best that science can give? In that belief my appeal when in London extended from the door of the scientist to that of the statesman. To statesmanship the appeal continues that "It may wake and understand" and then "With knowledge use a painless hand." Trusteeship for the native makes great demands: from the way in which we understand and meet its difficulties and duties our assumption of it may be judged.

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In- and out-breeding

To the Editor, Eugenics Review

SIR,—I feel compelled to take issue with the unscientific manner in which Mr. A. M. Ludovici and Dr. K. B. Aikman attempt to prove, in two articles in the October number, the social desirability—indeed the indispensability—of avoiding racial crosses in man; and against their pseudoscientific case for racial purity and inbreeding.

One may agree, for the sake of argument, that relative inbreeding may have advantages when practised by good stocks carrying few recessive genes for defects (assuming that the latter can be certainly known beforehand, which is usually impossible). But why must the advantages of inbreeding be supported by numerous illogical lines of reasoning, by unfounded inferences from history, by irrelevant quotations from so-called "authorities," many of whom, far from being authorities on the subject discussed, are merely occasional observers of the phenomenon in question? Mr. Ludovici and Dr. Aikman make so many statements that are either unfounded in fact or false in inference that it would require almost as much space as they use (15 pp.) to expose their errors and fallacies. I shall not transgress upon your space to that extent, but confine my efforts to indicating a few of their more fundamental errors, fallacies and unproved statements.

Dr. Ludovici's thesis is this: "Culture, in so far as it is social harmony and order, must be the product of an ordered, harmonious man" (p. 147). Inbreeding alone furnishes this harmonious man. Outbreeding causes disharmony of characteristics. These, in turn, lead only to social decay. If we are to avoid social chaos and disharmony we must prevent all unions which are not closely related biologically. Such is the thesis.

It is not new. Indeed it has been refuted so often that only a novelist might be expected to marshal courage sufficient to revive it.

Minor points in the thesis are as follows: Early cultures were harmonious. The reason: inbreeding. Modern culture is disharmonious. Reason: little inbreeding, much crossing. Not only were early cultures "extremely harmonious... but our own culture owes what little beauty and harmony it possesses entirely [sic] to them" (p. 147). All the great early cultures were either naturally or artificially confined geographically. This made inbreeding necessary.

Now it ought to be clear without detailed proof that (1) not all early great cultures were so confined; (2) that they were not all incestuous as Mr. Ludovici suggests by presenting hand-picked evidence; (3) that we do not owe the harmony existing between our social institutions (whatever the degree of harmony posited as representing reality) solely to these early civilizations.

What does Mr. Ludovici mean by disharmony of inheritance in man caused by lack of inbreeding, or, if you prefer, by outbreeding? Simply that a man has a colon too long for his stature, or that his lower jaw does not fit perfectly with his upper, etc. Assuming that Mr. Ludovici has shown that such defects are due to racial crossing alone and that they could not have appeared in an inbred stock (which is unproved), he has not furnished an iota of evidence that present maladjustments in social institutions are due exclusively, or even primarily or at all, to physical disharmonies in man. Here are two important gaps—especially the latter—which Mr. Ludovici has made no effort to fill. Yet proof of this is logically necessary for the presentation of a valid case for his untenable hypothesis.

Mr. Ludovici posits an instinct toward homogeneity (p. 148)—a mere figment of creative imagination! Mr. Ludovici says that only by "a stroke of luck" (p. 148) can mixed breeding furnish a harmonious inheritance. How any observer of man's physique, realizing the heterogeneous nature of most matings, can make such a statement, I find it difficult to understand. Does Mr. Ludovici mean to say that 999 people out of 1,000 are disharmonious physically?

No informed writer has contended that inbreeding per se resulted necessarily in biological deterioration; and the space which Mr. Ludovici devotes to refuting the contrary is so much wasted effort. But because inbreeding is not bad per se is not to say that cultural decay is primarily due to a lack of it.

History, in fact, refutes this. Practically every great nation or group has been more or less mixed; and neither Mr. Ludovici or anyone else has ever succeeded in proving that the failure of any such group to survive has been exclusively or even primarily due to failure to keep its stock "pure," that is, inbred. Yet we are solemnly informed (p. 153) that "culture and civilization have been almost exclusively the creation of inbred stocks, and . . . that the present age of extremely random breeding must or should [sic] be an age of disintegration and decay."

Mr. Ludovici seems to assume that social planners and social theorists can reason about human society as if men were self-fertilizing peonies, self-fertilizing cereal crops, or incestuous mice. Utopian failure to face practical difficulties does eugenics harm, not good.

Not only is Mr. Ludovici's biological determinism the most overly-simplified possible, but it overlooks the fact that culture is primarily a cumulative social product, and that, as such, whatever the importance of biological factors, the explanation of cultural flowering and decay must take account of social-institutional factors. It cannot be explained solely in terms of any single biological phenomenon such as failure to inbreed sufficiently.

Mr. Ludovici contradicts himself. He says (p. 153) "Random breeding may destroy mental harmony." Throughout he reasons as if it necessarily does. Which way does Mr. Ludovici wish to have it? What will any competent psychiatrist think of the theory that "the increase in insanity and mental defectiveness" in our day—how is Mr. Ludovici sure there has been an actual and not a spurious increase?—is due to lack of inbreeding? Will they laugh or bother to refute him?

Does Mr. Ludovici really believe that eugenics will get very far in our day by advocating brother and sister matings? Does he make sufficient allowance for the prejudices which exist on this subject? He admits that close inbreeding would segregate strains so defective as to render necessary "legalized infanticide for the worst products of the diseased stocks " (p. 155). Yet he advocates a social policy for eugenists which leads up blind alleys, to ultimate frustration of our more sober and immediately desirable goals. If eugenists wish to lose entirely the respect and co-operation of thoughtful people and of scientists, they will endorse such pseudo-science and utopianism. If they wish this respect and co-operation to continue and to augment itself they will reject such fantastic, impractical proposals.

Dr. Aikman's paper on "Race Mixture," though better informed and more temperate than Mr. Ludovici's, maintains the same racial purity thesis. A point unproved and perhaps untenable is assumed: that the great divisions of mankind which we call races differ widely in inherent genetic endowment and hence in capacity to build great civilizations. There is no a priori justification for this assumption, and very little evidence for it in history because, though the white race has built greater civilizations from a material standpoint than either the yellow (red) or black, recorded history is as yet too short to assure us finally that the tables might not be turned in the future. If the yellow or black races get on top in a thousand or two years will that be conclusive evidence that the whites are inferior? If there is a cycle in the rise and fall in world hegemony of one of the groups mentioned, history is too short to trace these cycles. The cycles for nations and peoples are but a mere ripple in the surface of this colour cycle. So much for an unproved assumption, which underlies both papers and much of the other literature on racial purity.

The case against hybridization of the primary races is stronger on social than biological grounds. Dr. Aikman fails to make this point clear. Perhaps he does not believe it. Virtually all sociologists do. Is this merely crystallized error on the part of men supposedly skilled in treating such topics?

The quotations from Professor N. S. Shaler and Ex-President Eliot have little or no scientific value for the point in question: the inadvisability of racial crosses (Shaler primary, Eliot secondary). If Dr. Eliot ever really said, as Dr. Aikman affirms, that "the marriage of people of different European races produces children weaker and less able than those whose parents belong to the same nation," (p. 163) the case is, at best, unproved and is probably false. The results of the mixture of European stocks in America seems to me to disprove it. Whatever the competence of Drs. Shaler and Eliot to speak on certain matters, racemixture was not one of them. One might as well quote Edison on intelligence tests or Henry Ford on some historical question. Another "authority" cited by Dr. Aikman is Dr. Mjøen of Norway, who studied crosses there between Laplanders, who have, it is alleged, some Mongolian blood, and Caucasians (Scandinavians). Now Dr. Mjøen has never succeeded in showing that the bad results of the mixture were due to the fact of outbreeding and not to defective genes carried by the stocks in question. If I remember correctly, some years ago he took a reverse position: inbreeding per se was bad. We know that it is not. It depends on the genetic constitution of the stocks inbred. So much for Dr. Aikman's "authorities."

If the case is so clear on logical or experimental grounds why must there be all this appeal to authorities?

Some of Dr. Aikman's sociology, I fear, is of the same character as his biology. We are solemnly told (p. 165) "many Americans . . . feel that all is not well with their culture, art, music, sexualmorality, family life and religion, and . . . attribute much of the alleged deterioration to the effect of the extraordinary mixture of races and

colours . . . present in the 'Melting Pot.'" I am glad to know that American jazz is due to our lack of purity, for now that immigration has virtually ceased, the man on the street will presently prefer symphonies. And as for art, that, too, ought to flower with restricted immigration and less crossbreeding. If these things happen, if America becomes culturally more mature, as the pioneer-settlement stage recedes into history, it will be primarily due, I suppose, to increased racial purity. Our noble stock will keep its blood pure and not contaminate itself by crossing with that of European immigrants.

Dr. Aikman, like Mr. Ludovici, makes appeals to history. And as nearly as I can see, they are equally erroneous. Since the Israelites, he contends, mixed with other stocks (what group has not) they were subdued and captured. This could not happen unless they first deteriorated (p. 165). Q.E.D. There is not a shred of proof that the Israelites were captured because they first deteriorated biologically. This is merely assumed. Yet it is one of the points Dr. Aikman is trying to prove in order to support his case for the superiority of inbreeding in man and the unwisdom of even conservative secondary racial crossing. Such is the logic of these race purists.

Now a case can be made for individual biological purity, a less cogent case for racial purity. But let us not lean over backwards in our attempt to stand up straight. Let us not use false inferences from history, poor sociological reasoning and bad biology to bolster up a doctrine which has only limited tenability and which is utterly incapable alone of explaining the rise, flowering and final decadence of nations, civilizations, groups.

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The Editor, Eugenics Review

SIR,-I am grateful for the opportunity of replying to Dr. Himes's letter. In so far as I assumed that "the great divisions of mankind which we call races differ widely in their inherent genetic endowment" I was correct, for the primary races differ in some genes as white differs from yellow and black. I believe there are correlated differences, no less real though less obvious, and that it is more scientific to judge the capacity of these races to build great civilizations by their historical records, rather than by what might happen in future ages. Caucasian civilization compares favourably, morally (e.g. slavery) as well as materially, with that of the Mongolian and the Negro; and in proportion as the Caucasians follow their greatest Teacher, Jesus Christ, so will that superiority increase.

It is said that I fail to make clear that "the case against hybridization of the primary races is stronger on social than biological grounds." In my view it is bad on both grounds. Intentionally I do not say which is worse. Both heredity and en-

vironment are at work in every case, and one's answer may depend on one's prejudices. Thus it seems probable that "virtually all sociologists" stress the social side of this problem because that is the one to which they have devoted most attention. This does not, however, prove that they are right, and a minority, even of sociologists, do not agree with Dr. Himes.

Professor N. S. Shaler's reasons for his opinion are given in extenso and appear worthy of notice and respect. Human Migration and the Future, by J. W. Gregory, F.R.S. (1928 edition, p. 171), gives Dr. Eliot's opinion, and to compare it to that of Edison on intelligence tests or of Henry Ford on some historical question seems almost lèse-majesté to a Briton, who can but think that the President of Harvard was well placed to judge by observation whether "the marriage of people of different European races produces children weaker and less able than those whose parents belong to the same nation," the more so as he did not attempt to distinguish between the effects of heredity and environment.

Dr. Himes calls Dr. Mjøen another "authority" [sic]. The latter has studied Norwegian-Lapp crosses more than any other man. He is regarded as an authority in Scandinavia and in Britain, and held the opinions quoted when I visited him last summer. His view is supported by Professor Lundborg of Uppsala (Sweden) an "authority" of mine who has not been questioned. Dr. Himes has ignored another, Mr. F. L. Hoffman, possibly because his evidence is based on vital statistics and supports the biological view. I appealed to authorities because in a short article it is impossible to give all facts fully.

As to the view that much of the alleged deterioration of American culture, art, music, sexual morality, family life and religion is due to race mixture," I gave reasons, shortly, for thinking it is so; and this view is supported by Dr. Himes's own statement: "The case against hybridization is stronger on social than on biological grounds." European musicians attribute a Negro origin to American jazz music. I merely assumed that it is due to the Negroes and mixed-bloods in the U.S.A., rather than to those in Africa.

I do not share Dr. Himes's optimism regarding the future of art in his great country, "now that immigration has virtually ceased." It is too late for their "noble stock "to "keep its blood pure," and I recall Booker T. Washington's dictum: "The problem is not so much what the white man will do with the Negro, as what the Negro will do with the white man and his civilization." I made no assumption that the Israelites deteriorated biologically "from mixture with rather similar races." Their prophets and historians spoke of deterioration, stressing environmental effects (idolatry, etc.) "as virtually all sociologists do." Space compels me to refer Dr. Himes to the Bible, where he will find authority for the view I actually took.